(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 13 October 2005 (13.10.2005)

PCT

(10) International Publication Number WO 2005/094231 A2

- (51) International Patent Classification: Not classified
- (21) International Application Number:

PCT/US2004/034079

- (22) International Filing Date: 14 October 2004 (14.10.2004)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/554,540

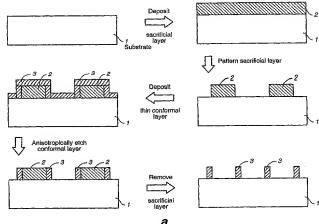
19 March 2004 (19.03.2004) U

(71) Applicant (for all designated States except US): THE REGENTS OF THE UNIVERSITY OF CALIFORNIA [US/US]; 1111 Franklin Street, 12th floor, Oakland, CA 94607-5200 (US).

- (71) Applicants and
- (72) Inventors: ZHU, Ji [CN/US]; 3101 Carlson Boulevard, Apt.4, El Cerrito, CA 94530 (US). GRUNES, Jeff [US/US]; 2815 Park Street, Berkeley, CA 94702 (US). CHOI, Yang-Kyu [KR/US]; 197 Wilson Street, #73, Albany, CA 94710 (US). BOKOR, Jeffrey [US/US]; 9169 Skyline Boulevard, Oakland, CA 94611 (US). SOMORJAI, Gabor [US/US]; 665 San Luis Road, Berkley, CA 94704 (US).
- (74) Agent: NOLD, Charles, R.; Lawrence Berkeley National Laboratory, One Cyclotron Road, Mail Stop 90B0104, Berkeley, CA 94720 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,

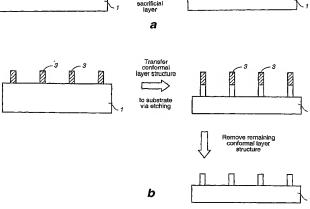
[Continued on next page]

(54) Title: METHODS FOR FABRICATION OF POSITIONAL AND COMPOSITIONALLY CONTROLLED NANOSTRUCTURES ON SUBSTRATE



(57) Abstract: Fabrication methods disclosed herein provide for a nanoscale structure or a pattern comprising a plurality of nanostructures of specific predetermined position, shape and composition, including nanostructure arrays having large area at high throughput necessary for industrial production. The resultant nanostracture patterns are useful for nanostructure arrays, specifically sensor and catalytic arrays.





WO 2005/094231 A2

. I BERTE BUILDER IN BERTE HEIN BERTE BUIL FOR IN HEIN BUILD BUILD BUILD HER BUILD HEIN BUILD BUILD HEIN HEIN

KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,

FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

 without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.